

Notice of Allowability

Application No.

10/613,772

Examiner

Rhonda S. Peace

Applicant(s)

KAPLAN ET AL.

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicant's amendment filed 11/28/2006.
2. ☒ The allowed claim(s) is/are 1-69.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Michelle R. Connelly-Cushwa
MICHELLE CONNELLY-CUSHWA
PRIMARY EXAMINER
2/15/07

DETAILED ACTION

Drawings

The drawings were received on 11/28/2006. These drawings are suitable for publication.

Allowable Subject Matter

Claims 1-69 are allowed.

The following is an examiner's statement of reasons for allowance:

The applicable prior art, most notably Yao (US 5654818) and Olshansky (US 5101450), do not disclose or reasonably suggest a device comprising, or a method of using, first and second Mach-Zehnder modulators with a splitter coupled to each modulator which splits incoming light *having a linear polarization state into two beams* (one coupled to each modulator) *having the same polarization state*, and a combiner which combines the outputs of each modulator with one another, and moreover having a phase shifter coupled to at least one of the modulators, where the above components are formed as a part of a single planar chip made of electro-optical material. Yao and Olshansky each disclose a device having a similar composition to that described above, namely two Mach-Zehnder modulators, a splitter, and combiner as described above. In addition, Yao also shows a phase shifter coupled to the modulators in a manner described above. However, neither Yao nor Olshansky show the splitter receiving light having a *linear polarization*, and instead the splitters of each of Yao and Olshansky receive light having dual polarization. Therefore, the splitters of Yao and Olshansky split the light into two beams having *orthogonal* polarization states, and not the *same*

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polarization state, as is required by all independent claims of the current invention. It is in this manner that the current invention has distinguished itself over the prior art, and therefore is in condition for allowance.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments, see page 10, filed 11/28/2006, with respect to the objection to claims 35, 37, and 38 for improper dependency have been fully considered and are persuasive. The objection of claims 35, 37, and 38 has been withdrawn.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ovadia et al (US 2003/0206676) discloses a method and apparatus for semiconductor-based integrated polarization modulator/compensator. Burns et al (US 5644665) discloses a multi-octave, high dynamic range operation of low-biased modulators by balanced detection. Jelks (US 7065302) discloses a high efficiency optical feedback modulator and its method of operation. Farries et al (US 6607313) discloses a micro-optic delay element for use in a polarization multiplexed system. Olshansky (US 5301058) discloses a single sideband optical modulator for lightwave systems. Olshansky (US 5101450) discloses a quadrature optical phase modulator for lightwave systems.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda S. Peace whose telephone number is (571) 272-8580. The examiner can normally be reached on M-F (8-5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272- 2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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Art Unit 2874


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